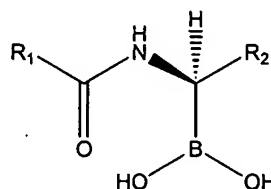


In the claims:

Claims 1 and 10 are amended, and claims 28-34 are cancelled. A detailed listing of the claims is presented, below.

1. (Currently Amended) A β -lactamase inhibitor compound having a formula



wherein R_1 is a substituent selected from hydrogen, alkyl, alkenyl, cycloalkenyl, and heterocyclyl moieties, providing R_1 is not methyl and R_1 is not phenyl; and wherein R_2 is a substituent selected from heterocyclyl, cycloalkenyl, alkenyl and alkyl moieties.

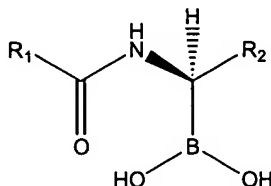
2. (Original) A β -lactamase inhibitor compound of Claim 1 wherein said R_1 substituent further comprises at least one of a hydroxy, halogen, alkoxy, amino, amido, nitro, nitrile, azo, acyl, carboxy, sulfoxy, sulfonyl, formyl, alkenyl, branched or unbranched alkyl, cycloalkyl, aminoalkyl, alkoxyalkyl, carboxylalkyl, arylalkyl, haloalkyl, azoalkyl, amidoalkyl, alkylcarbonyl, alkoxyalkylcarbonyl, alkoxyalkyl, aminocarbonyl, amidocarbonyl, arylcarboxamido, arylamino, arylcarbonyl, arylalkoxy, amidocarbonyl, carboxycarbonyl, cycloalkenyl and heterocyclyl moiety.

3. (Original) A β -lactamase inhibitor compound of Claim 2 wherein said R_1 substituent comprises a thiophene-2-yl moiety.

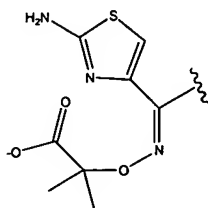
4. (Original) A β -lactamase inhibitor compound of Claim 1 wherein said R_2 substituent further comprises at least one of a carboxyl, formyl, sulfonyl, sulfoxy, heterocyclyl, cycloalkenyl, alkoxy, alkenyl, amino, amido, nitro, nitrile, azo, acyl, branched or unbranched alkyl, cycloalkyl, aminoalkyl, amidoalkyl, alkoxyalkyl and arylalkoxy moiety.

5. (Original) A β -lactamase inhibitor compound of Claim 4 wherein R_2 is phenyl comprising one of a 3-carboxylate, a 3-formyl, a 3-sulfonate and a 3-heterocyclyl moiety.

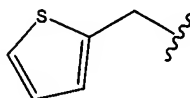
6. (Original) A β -lactamase inhibitor compound having a formula



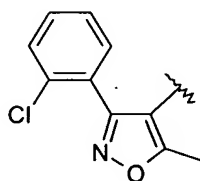
wherein R_1 is a substituent selected from (a) alkylaryl, (b) arylalkylether, (c) a moiety having the formula,



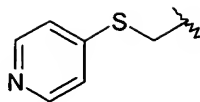
(d) a moiety having the formula,



(e) a moiety having the formula, and



(f) a moiety having the formula,



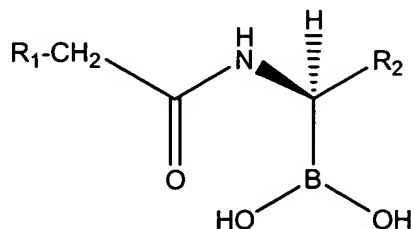
and wherein R₂ is a substituent selected from heterocyclyl, cycloalkenyl, alkenyl and alkyl moieties.

7. (Original) A β -lactamase inhibitor compound of Claim 6 wherein said R₁ substituent further comprises at least one of a hydroxy, halogen, alkoxy, amino, amido, nitro, nitrile, azo, acyl, carboxy, sulfoxy, sulfonyl, formyl, alkenyl, branched or unbranched alkyl, cycloalkyl, aminoalkyl, alkoxyalkyl, carboxylalkyl, arylalkyl, haloalkyl, azoalkyl, amidoalkyl, alkylcarbonyl, alkoxyalkyl, alkoxyalkyl, alkoxyalkyl, aminocarbonyl, amidocarbonyl, arylcarboxamido, arylamino, arylcarbonyl, arylalkoxy, amidocarbonyl, carboxycarbonyl, cycloalkenyl and heterocyclyl moiety.

8. (Original) A β -lactamase inhibitor compound of Claim 6 wherein said R₂ substituent further comprises at least one of a hydroxy, halogen, alkoxy, amino, amido, nitro, nitrile, azo, acyl, carboxy, sulfoxy, sulfonyl, formyl, alkenyl, branched or unbranched alkyl, cycloalkyl, aminoalkyl, alkoxyalkyl, carboxylalkyl, arylalkyl, haloalkyl, azoalkyl, amidoalkyl, alkylcarbonyl, alkoxyalkyl, alkoxyalkyl, alkoxyalkyl, aminocarbonyl, amidocarbonyl, arylcarboxamido, arylamino, arylcarbonyl, arylalkoxy, amidocarbonyl, carboxycarbonyl, cycloalkenyl and heterocyclyl moiety.

9. (Original) A β -lactamase inhibitor compound of Claim 8 wherein R₂ comprises phenyl substituted at the 3-position thereof.

10. (Currently Amended) A β -lactamase inhibitor compound having a formula



wherein R₁ is a substituent selected from ~~hydrogen~~, alkyl, thiophenyl, pyrrolyl, furanyl, oxazolyl, imidazolyl and thiazolyl moieties; and wherein R₂ is phenyl.

11. (Original) A β -lactamase inhibitor compound of Claim 10 wherein said R₂ substituent further comprises at least one of a carboxy, formyl, sulfonyl and heterocyclyl moiety.

12. (Original) A β -lactamase inhibitor compound of Claim 11 wherein said R₂ substituent is substituted at the 3-position thereof.

13. - 34. (Canceled).